IN THE CLAIMS

1. (Currently Amended) A method for evaluating operation of a compression cooling system; **said cooling system including a condenser unit; said cooling system including a refrigerant-saturated-assured locus within said condenser unit; said cooling system including a refrigerant-liquid-assured locus generally adjacent to said condenser unit;** the method comprising the steps of:

   (a) in no particular order:

      (1) measuring a first temperature of said refrigerant in a saturated state; **said measuring said first temperature being effected within said refrigerant-saturated-assured locus;** and

      (2) measuring a second temperature of said refrigerant in a liquid state; **said measuring said second temperature being effected within said refrigerant-liquid-assured locus;** ~~**and**~~

   (b) calculating a difference between said first temperature and said second temperature to determine the extant amount of subcooling to which said refrigerant is ~~**subjected.**~~ **subjected; and**

   (c) comparing said extant amount of subcooling with a predetermined acceptable amount of subcooling to effect said evaluating.

2. (Currently Amended) A method for evaluating operation of a compression cooling system as recited in Claim 1 wherein the method comprises the further step of:

   ~~**(c) comparing said extant amount of subcooling with a predetermined acceptable amount of subcooling**~~

   (d) changing amount of refrigerant in said cooling system when said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by greater than a predetermined difference.

3. (Currently Amended) A method for evaluating operation of a compression cooling system as recited in Claim 2 wherein ~~the method comprises the further step of: (d) changing amount of refrigerant in said cooling system when said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by greater than a predetermined amount~~ said cooling system includes a microprocessor control unit coupled for controlling said cooling system, and wherein said comparing is effected in said microprocessor control unit; said predetermined acceptable amount of subcooling being stored in said microprocessor control unit.

4. (Currently Amended) A method for evaluating operation of a compression cooling system as recited in ~~Claim 1~~ Claim 2 wherein ~~the method comprises the further step of:~~

~~(e) adding refrigerant to said cooling system when said extant amount of subcooling is less than a predetermined acceptable amount of subcooling~~ said cooling system includes a control unit coupled for controlling said cooling system; said control unit being in communication with a distal site remotely located from said cooling system; said comparing being effected in at least one of said control unit and said distal site; said predetermined acceptable amount of subcooling being stored in at least one of said control unit and said distal site.

5. (Currently Amended) A method for evaluating operation of a compression cooling system as recited in ~~Claim 3~~ Claim 2 wherein the method comprises the further step of:

(e) repeating steps (a) through (d) until said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by less than said predetermined ~~amount~~ difference.

6. (Currently Amended) A method for evaluating operation of a compression cooling system as recited in ~~Claim 4~~ Claim 3 wherein the method comprises the further step of:

(d) repeating steps (a) through (c) until said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by less ~~than a~~ than said predetermined ~~amount~~ difference.

7. (Currently Amended) A method for evaluating refrigerant charge in a compression cooling system; said system including a first system portion in which said refrigerant is substantially always in a saturated state and a second system portion in which said refrigerant is substantially always in a liquid state; the method comprising the steps of:

(a) in no particular order:

(1) measuring a first temperature of said refrigerant in said first system portion; and

(2) measuring a second temperature of said refrigerant in said second system portion;

(b) calculating a difference between said first temperature and said second temperature to determine the extant amount of subcooling effected by said ~~system.~~ system; and

(c) comparing said extant amount of subcooling with a predetermined acceptable amount of subcooling to effect said evaluating.

8. (Currently Amended) A method for evaluating refrigerant charge in a compression cooling system as recited in Claim 7 wherein the method comprises the further step of:

~~(c) comparing said extant amount of subcooling with a predetermined acceptable amount of subcooling~~

(d) changing amount of said refrigerant in said cooling system when said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by greater than a predetermined difference.

9. (Currently Amended) A method for evaluating refrigerant charge in a compression cooling system as recited in Claim 8 wherein ~~the method comprises the further step of:~~

~~(d) changing amount of refrigerant in said cooling system when said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by greater than a predetermined amount~~ said cooling system includes a microprocessor control unit coupled for controlling said cooling system, and wherein said comparing is effected in said microprocessor control unit; said predetermined acceptable amount of subcooling being stored in said microprocessor control unit.

10. (Currently Amended) A method for evaluating refrigerant charge in a compression cooling system as recited in Claim 7 wherein ~~the method comprises the further step of:~~

~~(c) adding refrigerant to said system when said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by less than a predetermined amount~~ said cooling system includes a control unit coupled for controlling said cooling system; said control unit being in communication with a distal site remotely located from said cooling system; said comparing being effected in at least one of said control unit and said distal site; said predetermined acceptable amount of subcooling being stored in at least one of said control unit and said distal site.

11. (Currently Amended) A method for evaluating refrigerant charge in a compression cooling system as recited in ~~Claim 9~~ **Claim 8** wherein the method comprises the further step of:

(e) repeating steps (a) through (d) until said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by less than said predetermined ~~amount~~ **difference**.

12. (Currently Amended) A method for evaluating refrigerant charge in a compression cooling system as recited in ~~Claim 10~~ **Claim 9** wherein the method comprises the further step of:

(d) repeating steps (a) through (c) until said extant amount of subcooling differs from said predetermined acceptable amount of subcooling by less ~~than a~~ **than said** predetermined ~~amount~~ **difference**.

13. (Currently Amended) A compression cooling system comprising:

(a) a compressor, an evaporator and a condenser fluidly coupled by at least one fluid carrying line containing a refrigerant; **said cooling system including a refrigerant-saturated-assured locus within said condenser; said cooling system including a refrigerant-liquid-assured locus in said fluid carrying line between said condenser and said evaporator generally adjacent to said condenser unit;**

(b) a first temperature measuring device connected with said system for measuring a first temperature of said refrigerant in a saturated state; **said measuring being effected within said refrigerant-saturated-assured locus;** ~~and~~

(c) a second temperature measuring device connected with said system for measuring a second temperature of said refrigerant in a liquid state; **said**

measuring said second temperature being effected within said refrigerant-liquid-assured locus; and

(d) a calculating device coupled with said first temperature measuring device and said second temperature measuring device; said calculating device calculating a difference between said first temperature and said second temperature to determine an extant amount of subcooling effected by said system.

14. (Currently Amended) A compression cooling system as recited in Claim 13 wherein the system further comprises:

~~(d) a calculating device coupled with said first temperature measuring device and said second temperature measuring device; said calculating device calculating a difference between said first temperature and said second temperature to determine an extant amount of subcooling effected by said system~~

(d) a reservoir unit coupled with said fluid carrying line via a control valve; and

(e) a microprocessor control unit coupled with said calculating device and coupled for controlling said control valve; said microprocessor control unit operating said control valve for changing amount of refrigerant in said fluid carrying line when said extant amount of subcooling differs from a predetermined acceptable amount of subcooling by greater than a predetermined difference.

15. (Currently Amended) A compression cooling system as recited in Claim 14 wherein ~~the system further comprises:~~

~~(e) fluid access fittings in said fluid carrying line for effecting fluid communication with the system from without the system; said fluid access fittings being configured to accommodate a user coupling a refrigerant~~

~~source with said fittings for changing charge of said refrigerant within said system when said extant amount of subcooling differs from a predetermined acceptable amount of subcooling by greater than a predetermined amount~~ said microprocessor control unit includes said calculating device, and wherein said predetermined acceptable amount of subcooling is stored in said microprocessor control unit.

16. (Currently Amended) A compression cooling system as recited in Claim 15 wherein ~~said predetermined acceptable amount of subcooling is provided to said user by a tool; said tool being external of said system~~ said microprocessor control unit is in communication with a distal site remotely located from said cooling system; said calculating being effected in at least one of said microprocessor control unit and said distal site; said predetermined acceptable amount of subcooling being stored in at least one of said microprocessor control unit and said distal site.

17. (Currently Amended) A compression cooling system as recited in ~~Claim 15~~ Claim 13 wherein ~~said predetermined acceptable amount of subcooling is provided to said user by said calculating device~~ the system further comprises:
(d) a reservoir unit coupled with said fluid carrying line via a control valve; and
(e) a control unit coupled with said calculating device and coupled for controlling said control valve; said control unit operating said control valve for changing amount of refrigerant in said fluid carrying line when said extant amount of subcooling differs from a predetermined acceptable amount of subcooling by greater than a predetermined difference.

18. (Currently Amended) A compression cooling system as recited in ~~Claim 13~~ Claim 17 wherein ~~the system further comprises:~~

~~(e) fluid access fittings in said at least one fluid carrying line for effecting fluid communication with the system from without the system; said fluid access fittings being configured to accommodate a user coupling a refrigerant source with said fittings for changing charge of said refrigerant within said system when said extant amount of subcooling differs from a predetermined acceptable amount of subcooling by greater than a predetermined amount~~ said control unit includes said calculating device, and wherein said predetermined acceptable amount of subcooling is stored in said control unit.

19. (New) A compression cooling system as recited in Claim 18 wherein said control unit is in communication with a distal site remotely located from said cooling system; said calculating being effected in at least one of said control unit and said distal site; said predetermined acceptable amount of subcooling being stored in at least one of said control unit and said distal site.